



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**29.10.2008 Bulletin 2008/44**

(51) Int Cl.:  
**A61B 5/00 (2006.01) A61B 5/053 (2006.01)**  
**A61N 1/32 (2006.01)**

(43) Date of publication A2:  
**03.09.2008 Bulletin 2008/36**

(21) Application number: **08003552.0**

(22) Date of filing: **27.02.2008**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR**  
Designated Extension States:  
**AL BA MK RS**

(30) Priority: **28.02.2007 JP 2007048262**  
**26.03.2007 JP 2007078375**

(71) Applicant: **SYSMEX CORPORATION**  
**Kobe-shi,**  
**Hyogo 651-0073 (JP)**

(72) Inventors:  
• **Hagino, Kei**  
**c/o Sysmex Corporation**  
**Kobe-shi**  
**Hyogo 651-0073 (JP)**

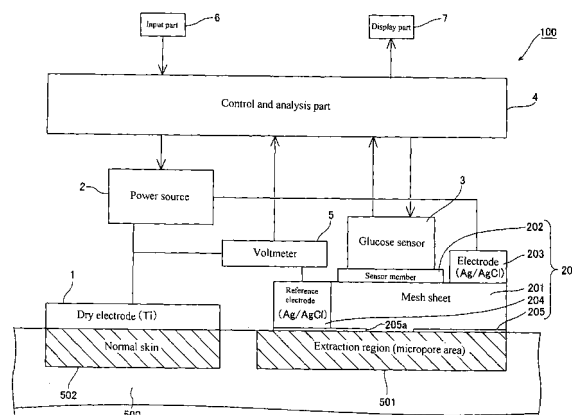
• **Okada, Seiki**  
**c/o Sysmex Corporation**  
**Kobe-shi**  
**Hyogo 651-0073 (JP)**  
• **Maekawa, Yasunori**  
**c/o Sysmex Corporation**  
**Kobe-shi**  
**Hyogo 651-0073 (JP)**  
• **Asano, Kaoru**  
**c/o Sysmex Corporation**  
**Kobe-shi**  
**Hyogo 651-0073 (JP)**

(74) Representative: **HOFFMANN EITLE**  
**Patent- und Rechtsanwälte**  
**Arabellastrasse 4**  
**81925 München (DE)**

(54) **Method of measuring skin conductance, method of analyzing component concentration, skin conductive measuring apparatus, and component concentration analyzer**

(57) The present invention provides a method of measuring skin conductance which can obtain an accuracy measurement result, comprising the steps of: supplying a low conductivity medium as a medium for holding tissue fluid that contains a predetermined component of a subject to a medium containing part; disposing the medium containing part on an extraction region of a skin of the subject; extracting tissue fluid through the extraction region into the low conductivity medium within the medium containing part; supplying electric power between a first electrode for supplying electric power to the extraction region and a second electrode for supplying electric power to the skin outside the extraction region; and measuring the conductance of the extraction region based on the electric power supplied between the first electrode and second electrode. A method of analyzing a component concentration, a skin conductance measuring apparatus, and a component concentration analyzer are also disclosed.

**FIG. 1**





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 08 00 3552

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
D,A	US 2006/029991 A1 (HAGINO KEI [JP] ET AL) 9 February 2006 (2006-02-09) * figures 2,3 *	7	INV. A61B5/00 A61B5/053 A61N1/32
X	* paragraphs [0009], [0029], [0030], [0069]; figure 3 *	9-11,13, 15,17-20	
Y	-----	12,16	
X	US 2004/018486 A1 (DUNN TIMOTHY C [US] ET AL) 29 January 2004 (2004-01-29) * paragraph [0106]; figure 1 *	7	
X	US 2005/096520 A1 (MAEKAWA YASUNORI [JP] ET AL) 5 May 2005 (2005-05-05) * paragraphs [0035], [0056]; figure 4 *	8	
Y	* paragraph [0029]; figure 1 *	12	
P,X	EP 1 839 570 A (SYSMEX CORP [JP]) 3 October 2007 (2007-10-03)  * paragraphs [0035], [0041], [0044], [0045], [0047], [0049], [0050], [0068]; figures 4,6,10 *	9-11, 13-15, 19-21	TECHNICAL FIELDS SEARCHED (IPC)
Y	US 2003/208152 A1 (AVRAHAMI ZOHAR [IL] ET AL) 6 November 2003 (2003-11-06) * paragraph [0193] *	16	A61B A61N
The present search report has been drawn up for all claims			
Place of search <b>The Hague</b>		Date of completion of the search <b>22 September 2008</b>	Examiner <b>Worms, Georg</b>
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

2

EPO FORM 1503 03.82 (P04C01)

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing claims for which payment was due.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:
- ☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



European Patent  
Office

**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
EP 08 00 3552

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claim: 7

monitor the condition of the extraction region  
---

2. claims: 8,21

determine the concentration of the extracted tissue fluid  
---

3. claims: 9-20

use a direct current to extract tissue fluid through  
micropores and at the same time use a alternating current  
for calculating the conductance of the skin  
---

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 00 3552

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-09-2008

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006029991 A1	09-02-2006	EP 1623665 A1	08-02-2006
		JP 2006068492 A	16-03-2006
-----			
US 2004018486 A1	29-01-2004	NONE	
-----			
US 2005096520 A1	05-05-2005	JP 2005137416 A	02-06-2005
-----			
EP 1839570 A	03-10-2007	JP 2007260315 A	11-10-2007
		US 2007232875 A1	04-10-2007
-----			
US 2003208152 A1	06-11-2003	NONE	
-----			